

**REMARKS**

Claims 1-21 and 24-29 are pending in this application. Claims 10-19 and 26 are withdrawn from consideration by the Examiner. By this Amendment, claims 1-3, 11, 21, 25, and 27 are amended, and claims 22 and 23 are canceled. Support for the amendments may be found in the original claims and in the original disclosure. No new matter is added.

In view of the foregoing amendments and following remarks, reconsideration and allowance are respectfully requested.

**I. Personal Interview**

The courtesies extended to Applicants' representative by Examiner Adams at the interview held on April 20, 2011 are appreciated. The reasons presented at the interview as warranting favorable action are incorporated into the remarks below, which constitute Applicants' record of the interview.

**II. Rejection Under 35 U.S.C. §112**

The Office Action rejects claims 1-9, 20-25, and 27-29 under 35 U.S.C. §112, second paragraph, as being indefinite. By this Amendment, claims 1-3, 21, 25, and 27 have been amended to obviate the rejection. Accordingly, reconsideration and withdrawal of the rejection are respectfully requested.

**III. Rejection Under 35 U.S.C. §102**

The Office action rejects claims 1-9, 20-22, 24, 25, and 27-29 under 35 U.S.C. §102(b) as being anticipated by Studer, Chem. Commun., pp.1727-1728 (1999) ("Studer"). By this Amendment, claim 22 is canceled, rendering its rejection moot. With respect to the remaining claims, Applicants respectfully traverse the rejection.

Independent claims 1-3 and 27 have been amended to include the subject matter of claim 23, which was not rejected under §102, as discussed and agreed to during the personal

interview. Studer does not disclose a state of bonds that is an integer ranging from 0 to 3, as recited in claims 1-3 and 27.

Thus, Studer does not anticipate independent claims 1-3 and 27 and dependent claims 4-9, 20, 21, 24, 25, 28, and 29. Accordingly, reconsideration and withdrawal of the rejection are respectfully requested.

#### **IV. Rejection Under 35 U.S.C. §103**

The Office Action rejects claim 23 under 35 U.S.C. §103(a) as having been obvious over Studer. By this Amendment, claim 23 is canceled. Insofar as the rejection may be deemed to apply against claims 1-3 and 27, Applicants respectfully traverse the rejection for at least the following reasons.

The Office Action acknowledges that Studer does not teach integer values ranging from 0 to 3 for enantiomeric excess, but asserts that it would allegedly have been obvious for a person of ordinary skill in the art to modify the method of Studer "[f]or the benefit of identifying which reaction conditions only provide enantiomeric excess of 0, 1, 2, or 3 percent." *See* Office Action, page 5. In making this assertion, the Office Action misapplies the holding of In re Aller, which states that "where the general conditions of a claim are disclosed in the prior art, it is not inventive to discover the optimum or workable ranges by routine experimentation." *Id.*

As discussed by Applicants' representative during the personal interview with the Examiner, the "Ee" values disclosed in Studer are not analogous to the "state of bonds" as recited in claims 1-3 and 27. Instead, the "Ee" values disclosed in Studer refer to the "enantiomeric excess," which is the absolute difference between the mole fraction of each enantiomer. Specifically, the Ee values summarized in Tables 1 and 2 of Studer provide a measurement of the purity of various synthesized substrates. This measurement is not analogous or related to the "state of bonds" between atoms.

As recited in the claims, the "state of the bonds is an integer ranging from 0 to 3." A person of ordinary skill in the art would understand this expression to be unambiguous, as it is well known in the art that a chemical bond which links two atoms may have several possible states (e.g., a single bond, a double bond, an aromatic bond) and that, during a chemical reaction, the state of some bonds may differ between the beginning and the end of the chemical reaction. The present specification further explains this general knowledge of the "state of bonds" in the following sections, reproduced herein for convenience:

More specifically, the state of the bonds of a reaction unit can be indexed using an integer, referred to as "state of the bonds", which can vary from 0 to 3, the value 0 generally describing the absence of a bond and the value 2 characterizing a double bond.

*See specification, page 5, lines 22-26.*

For example, in the event of nonreaction, the original state of the bonds is retained; in the event of reduction, the state of the bonds decreases by at least one unit; (a state equal to zero means the breaking of a bond). A decrease by one unit can correspond, for example, to the conversion of a triple bond into a double bond or of a double bond into a single bond or alternatively to the replacement of a halogen by a hydrogen.

*See specification, page 5, line 34 - page 6, line 4.*

The entity 5b comprises a primary key "ID\_PartComp", the identifier "ID\_Compound" of the compound to which the bonds belong, the name "Name" of each bond, it being possible for this name to comprise, for example, the number of the bond in the compound, and the state of the bonds "Amount", it being possible for 0 to mean that there is no bond capable of being converted, the bond being, for example, C-H, it being possible for 1 to mean, for example, that the bond is of C-X or C=C type, it being possible for 2 to mean, for example, that the bond is of C≡C type, and the like.

*See specification, page 20, line 34 - page 21, line 6.*

In order for it to have been obvious to one of ordinary skill in the art to have optimized or discovered working ranges, as asserted by the Office Action, all of the "general conditions" of the claim must be disclosed in the applied references. *See In re Aller*, 220 F.2d 454, 456, 105 USPQ 233, 235 (CCPA 1955) (reciting that both the acid concentration and the

temperature were disclosed in the reference as general conditions). Further, a parameter must first be recognized as a result-effective variable before the determination of the optimum or workable ranges of the variable may be characterized as routine experimentation. See In re Antonie, 559 F.2d 618, 195 USPQ 6 (CCPA 1977).

For at least the reasons discussed above, the "general conditions" of claims 1-3 and 27 are not disclosed in Studer, as Studer fails to disclose a method for creating a database that comprises information relating to a state of bonds. Furthermore, Studer in no way discloses that the state of the bonds is a result-effective variable subject to optimization, as it fails to discuss the state of the bonds of atoms altogether. Specifically, nowhere does Studer disclose or provide any reason or rationale for one of ordinary skill in the art to have expected that the percentage value of enantiomeric excess as summarized in Tables 1 and 2 can or should be converted into integers of specifically 0-3, and refer to a measurement of a state of bonds of atoms, rather than to the enantiomeric excess.

To the contrary, as is evident from the above reasoning, there is no logical application of the holding of In re Aller to render obvious claims 1-3 and 27 over the teachings of Studer. In short, Studer fails to disclose or teach a database that provides information relating to a state of bonds, let alone the state of the bonds being an integer ranging from 0-3, and Studer's findings relating the percentage of enantiomeric excess simply fail to in any way render this feature obvious.

Thus, for at least the reasons discussed above, Studer would not have rendered claims 1-3 and 27 obvious. Claims 4-9, 20, 21, 24, 25, 28, and 29 depend from claim 1 and, thus, also are not obvious over Studer for at least the same reasons. Accordingly, reconsideration and withdrawal of the rejection are respectfully requested.

**V. Conclusion**

In view of the foregoing, it is respectfully submitted that this application is in condition for allowance. Favorable reconsideration and prompt allowance of the claims are earnestly solicited.

Should the Examiner believe that anything further would be desirable in order to place this application in even better condition for allowance, the Examiner is invited to contact the undersigned at the telephone number set forth below.

Respectfully submitted,



William P. Berridge  
Registration No. 30,024

Jana Meier  
Registration No. 66,070

WPB:JMN

**Attachments:**

Request for Continued Examination  
Petition for Extension of Time

Date: July 22, 2011

**OLIFF & BERRIDGE, PLC**  
**P.O. Box 320850**  
**Alexandria, Virginia 22320-4850**  
**Telephone: (703) 836-6400**

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